REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Initially, the Applicants would like to thank the Examiner for the indication that claims 3-20, 22-43 and 45-48 contain allowable subject matter and would be allowed if rewritten in independent form including all of the limitations of their base claim and any intervening claims.

In the Official Action, the Examiner objects to the Drawings because Figure 17 should be designated by a legend, such as --Prior Art-- because only that which is old is illustrated. In response, Figure 17 has been amended to include the legend suggested by the Examiner. A clean copy replacement sheet is enclosed which includes such an amendment. Accordingly, it is respectfully requested that the objection to the Drawings be withdrawn.

In the Official Action, the Examiner objects to the specification because element 580 shown in Figure 17 is not mentioned in the specification. In response, the specification has been amended at page 2, lines 11 and 26, to clarify that the laser 506 is reflected by the mirror 580 toward the dichroic mirror 508 and is reflected by the dichroic mirror 508 and directed to the condenser lens 509. Such a configuration is clearly shown in Figure 17 and is also known to those of ordinary skill in the art (since Figure 17 illustrates a prior art system). Thus, no new matter has been entered into the disclosure by way of the present amendment to the specification. Accordingly, it is respectfully requested that the objection to the specification be withdrawn.

In the Official Action, the Examiner rejects claims 1, 2, 21, 44 and 49 under 35 U.S.C. § 103(a) as being unpatentable over WO 98/07022 to Ramm et al., (hereinafter "Ramm") in view of WO 00/05571 to Dixon et al., (hereinafter "Dixon").

In response, Applicants respectfully traverse the Examiner's rejection under 35 U.S.C. § 103(a) for at least the reasons set forth below.

Turning now to the prior art, Ramm is directed to a digital imaging system for assays in well plates, gels and blots. One aspect of Ramm is to correct nonspecific background florescent intensity (see page 30, line 33 to page 31, line 3). This is achieved by obtaining an image by use of an excitation filter that excites specific fluorescence as much as possible and as little nonspecific fluorescence as possible and subtracting therefrom an image obtained by use of an excitation filter that excites as little specific fluorescence as possible, while exciting nonspecific fluorescence. However, since the excitation wavelengths of nonspecific fluorescence and specific fluorescence are different, the amounts of light emission are also different. Therefore, even if the Ramm technique is used, it is impossible to estimate and remove an accurate amount of nonspecific fluorescence contained in an object to be measured (for example, noise from dust contained in a specimen).

In contrast, the florescent intensity measuring method of claim 1 is directed to removing a nonspecific fluorescence contained in an object to be measured. This nonspecific fluorescence may be "noise" generated by foreign matter, such as dust contained in the specimen.

Thus, the florescent intensity measuring method of claim 1 recites a method for fluorescent intensity measuring method, which measures the intensity of minute points that are arranged on a substrate having a substantially flat surface and include a fluorescent substance. The method comprises emitting light with a wavelength with which the fluorescent substance can be excited and obtaining an image of each minute point including the fluorescent substance as a first image; obtaining an image of foreign matter adhering on

the substrate as a second image by light with a wavelength which does not excite the fluorescent substance; obtaining a binarized image by extracting a foreign matter area from the second image; and disabling an image at a part overlapping the foreign matter area in the first image with the binarized image being used as a mask Thus, the method of claim 1 can remove an accurate amount of the foreign matter (for example, noise from dust contained in a specimen) contained in an object to be measured. With this feature, e.g., influence of an adhesive, which prevents measurement of specific fluorescence, can be completely eliminated. The method of claim 1 can remove an accurate amount of nonspecific fluorescence contained in an object to be measured, such as noise from dust in a specimen. Furthermore, the influence of adhering material, which prevents measurement of specific fluorescence, can be completely eliminated.

Neither the step of obtaining a binarized image of the non specimen (foreign matter) material nor the step of eliminating the non specimen material from the specific and non-specific images by using the binarized image as a mask are disclosed or suggested by Ramm. In contrast, the correction as to the nonspecific background fluorescence in Ramm is made by subtracting the nonspecific image from the specific image. That is, for every minute point of the specific image, the amount of light emitted at the excitation wavelength for the specific fluorescence is corrected by the amount of light emitted at the excitation wavelength for the nonspecific fluorescence. This is very different from obtaining the binarized image and using the same as a mask as is recited in claim 1. Claim 49 recites a fluorescent intensity measuring apparatus having similar features.

In the technique disclosed in Dixon, a microtiter plate is calibrated by eliminating from the image pixels deemed as unreasonable because of contamination. These

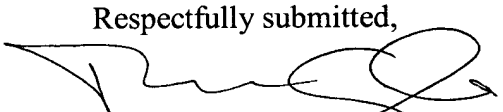
pixels are identified by binarization. However, in contrast to the method and apparatus of claims 1 and 49, respectively, only an image corresponding to an empty scene is subjected to contamination recognition. With such a method, a contamination can be recognized of only the measuring system (in Dixon, the scanner) but not a contamination on the specimen and thus, in the method of Dixon it is also impossible to remove a nonspecific fluorescence contained in an object to be measured (for example, noise from dust contained in a specimen). In addition, nonspecific fluorescence (for example, noise from dust contained in a specimen) is obtained from excitation light of the three colors of red, blue and green, and converted to a gray scale, and the noise, which is recognized as white light, is removed. It follows that excitation with light of the three colors of red, blue and green results in excitation of a fluorescent object to be measured. Therefore, in the technique of Dixon it is impossible to remove an accurate amount of the nonspecific fluorescence contained in an object to be measured.

Therefore, Ramm and Dixon, either individually or in combination do not disclose all of the features of independent claims 1 and 49. Thus, independent claims 1 and 49 are not rendered obvious by the cited references because neither the Ramm patent nor the Dixon patent, whether taken alone or in combination, teach or suggest a florescent intensity measuring method or a fluorescent intensity measuring apparatus having the features discussed above and recited in claims 1 and 49, respectively. Accordingly, claims 1 and 49 patentably distinguish over the prior art and are allowable. Claims 2, 21 and 44, being dependent upon claim 1 are thus at least allowable therewith. Consequently, the Examiner is respectfully requested to withdraw the rejection of claims 1, 2, 21, 44 and 49 under 35 U.S.C. § 103(a).

Furthermore, the Applicants respectfully submit that there is also no motivation or suggestion to combine the Ramm and Dixon references. Since Ramm does not relate to foreign material on objects to be measured and Dixon relates to problems caused by dirt and dust in the measuring system, those of ordinary skill in the art would not be motivated or suggested to combine such references for use in a system in which foreign matter on the object to be measured is eliminated. Furthermore, although Dixon discloses binarization, since there is no motivation or suggestion in Ramm to use binarization, the motivation or suggestion can have only come with hindsight from the present disclosure, which is impermissible. Therefore, in addition to Ramm and Dixon not disclosing all of the features of claims 1 and 49, their combination to defeat the patentability of claims 1 and 49 is also improper and must be withdrawn.

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,



Thomas Spinelli
Registration No.: 39,533

Scully, Scott, Murphy & Presser, P.C.
400 Garden City Plaza, Suite 300
Garden City, New York 11530
(516) 742-4343

TS:cm
Encl. (Replacement Sheet For Amended Figure 17)